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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/586,002

07/12/2006

Jiro Osawa

KANEKO.015AUS

9304

7590 05/14/2008
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Irvine, CA 92618

EXAMINER

ADDISU, SARA

ART UNIT	PAPER NUMBER
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3724

MAIL DATE	DELIVERY MODE
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05/14/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/586,002	Applicant(s) OSAWA ET AL.	
	Examiner SARA ADDISU	Art Unit 3724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 July 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/27/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is in response to the amendment filed 2/7/08. Currently, claims 3-10 are pending in this application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 9 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by NISHIMURA et al. (JP 55-42760).

NISHIMURA ET AL. teaches a milling tool comprising: a cylindrical tool body which is to be rotated about an axis thereof, and a nosed end cutting edges (3') which are located in an axially distal end portion of said tool body and which describe a semi-spherical-shaped locus during rotation of said tool body, wherein each of said nosed end cutting edges includes a first portion provided by a radially inner portion and defined by a circular arc with a first radius (r1: see figure below) and a second portion contiguous to said first portion and provided by a radially outer portion of each of said end cutting edges defined by a circular arc with a second radius (r2) whereby the second radius (r2) is larger than the first radius (r1) (see figure below).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

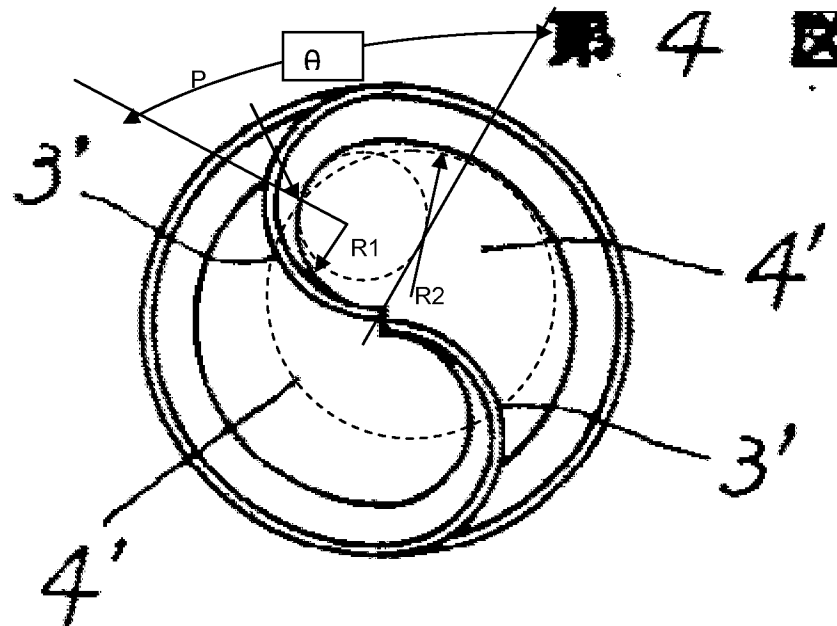
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 3-8, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over NISHIMURA et al. (JP 55-42760).

NISHIMURA ET AL. teaches a milling tool comprising: a cylindrical tool body which is to be rotated about an axis thereof, and a nosed end cutting edges (3') which are located in an axially distal end portion of said tool body and which describe a semi-spherical-shaped locus during rotation of said tool body, wherein each of said nosed end cutting edges includes a first portion provided by a radially inner portion and defined by a circular arc with a first radius (r1: see figure below) and a second portion contiguous to said first portion and provided by a radially outer portion of each of said end cutting edges defined by a circular arc with a second radius (r2) whereby the second radius (r2) is larger than the first radius (r1) (see figure below). Regarding claims 3 and 7, NISHIMURA ET AL. discloses the claimed invention (i.e. r1 and r2), except for the ratio of r1 being 0.025d- 0.10 d and the ratio of r2 0.55d – 0.65d. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify NISHIMURA ET AL. 's cutting edge radius depending on the size of the

Art Unit: 3724

milling tool and type of cut desired on the workpiece, because it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. Regarding claim 4, NISHIMURA ET AL. teaches a central angle (θ : see below) that is in the range of 60-120 degrees. n end view angle (B) of 15 degrees ('584, figure 3). Regarding claim 5, NISHIMURA ET AL. teaches said first and second portions of each of said nose end cutting edges are connected to each other at a connection point (P: see figure below) and wherein a first circle that is partially constituted by said circular arc defining said first portion is inscribed at said connection point (P) to a second circle (shown in phantom) that is partially constituted by said circular arc defining said second portion. Regarding claim 6, NISHIMURA ET AL. teaches in figure 1, peripheral cutting edges each of which is contiguous to said second portion of a corresponding one of said ball-nosed end cutting edges and extends away from said axially distal end portion toward a shank portion of said tool body. Regarding claim 8, although NISHIMURA ET AL. shows two diametrically opposed nose cutting edges, it is old and known to increase the number depending on the size of the tool.



Response to Arguments

Applicant's arguments with respect to claims 3-10 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

Art Unit: 3724

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sara Addisu at (571) 272-6082. The examiner can normally be reached on 8:30 am - 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Boyer Ashley can be reached on (571) 272-4502. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Sara Addisu/
Examiner, Art Unit 3722
5/12/08

/Boyer D. Ashley/

Supervisory Patent Examiner, Art Unit 3724